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ABSTRACT

This booklet profiles "leading edge" schools committed to ensuring that all students meet challenging academic standards and are prepared for college and careers. In 1996, these 10 New American High Schools were chosen by the U.S. Department of Education for their innovation and commitment to academic excellence. As these award-winning, geographically diverse school communities illustrate, there is more than one way to build an exemplary high school. Some schools are comprehensive high schools, some are restructured vocational-technical schools, some are magnet schools, and others are small pilot schools. Some have eliminated distinctions between college and career preparation, some have created broad career academies or clusters, and others have implemented career pathways. Comprehensive high schools include David Douglas High School, in Portland, Oregon; Encino High School, in Sacramento, California; and Thompson School District's three high schools in Loveland, Colorado. Magnet schools include Chicago High School for the Agricultural Sciences; New York City's High School of Economics and Finance; St. Louis, Missouri's Gateway Institute of Technology; Georgetown, Delaware's Sussex Technical High School; and Miami's William H. Turner Technical High School. Boston's Fenway Middle College High School is a pilot school, and Walhalla (South Carolina) High School is a college and "tech prep" facility. (MLH)

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ED 419 302

NEW AMERICAN HIGH SCHOOLS

U.S. DEPARTMENT OF EDUCATION

Profiles of the Nation's Leading Edge Schools

U.S. DEPARTMENT OF EDUCATION
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EA 029 111

NEW AMERICAN HIGH SCHOOLS
U.S. DEPARTMENT OF EDUCATION

The New American High Schools

Ten Schools At the Leading Edge of Reform

New American High Schools are schools where all students are expected to meet both challenging academic standards and acquire the communication, problem-solving, computer and technical skills necessary to pursue college and careers.

Imagine a High School Where...

- All the core activities of the school concentrate on student learning and achievement.
- All students are expected to master the same rigorous academic material. High expetations are established for student achievement.
- Staff development and planning emphasize student learning and achievement.
- The curricula are challenging, relevant and covers material in depth.
- Schools are using new forms of assessment.
- Students get extra support from adults.
- Students learn about careers and college opportunities through real-life experiences.
- Schools create small, highly personalized and safe learning environments.
- Technology is integrated into the classroom to provide high-quality instruction, and students have opportunities to gain computer and other technical skills.
- Periods of instruction are longer and more flexible.
- Strong partnerships are forged with middle schools and colleges.
- Schools form active alliances with parents, employers, community members and policymakers to promote student learning and ensure accountability for results.

All over the country, states and communities are taking up the challenge of reforming schools and building School-to-Work systems for the demands of the global, knowledge-based economy of the 21st century. To be effective citizens, parents, and workers in this new economy, all young people will need a higher level of academic, technical, communications, and information processing skills. The 10 "leading edge" schools documented here are committed to ensuring that all students meet challenging academic standards and are prepared for college and careers. In 1996, these 10 New American High Schools were chosen by the United States Department of Education with assistance from the National Center for Research in Vocational Education for their innovation and commitment to academic excellence. They were also awarded the Seventh Annual *Business Week* Awards for Instructional Innovation at a national conference sponsored by the U.S. Department of Education and co-sponsored by more than 60 education, business and community partners.

As these 10 school communities illustrate, there is more than one way to build a New American High School dedicated to educating students to high standards. Some of these schools are comprehensive high schools, some are restructured vocational-technical schools, some are magnet schools, and some are small pilot schools. They are geographically diverse as well. One school represents the Appalachian region of South Carolina, another is in the heart of Wall Street, and several are in the suburbs. They have all undertaken reforms suited to local and community needs. Some have eliminated all distinctions between college and career preparation, some have created broad career academies or clusters for all students, and still others have implemented career pathways. However diverse the local pedagogy and instructional strategies remain, a common theme runs through each effort -- a commitment to challenging academic standards, and preparation for college and careers for all students.

New American High Schools...in brief

Chicago High School for the Agricultural Sciences
Chicago, Illinois

"CHAS has always been different from most vocational schools or schools that have a vocational program. It was never designed to be both academic and vocational, and one was never considered to be better than the other. This is a community partnership that still believes in developing a youngster who can think and a youngster who can do: the true Renaissance person."

- Barbara Valerious, Principal

★Type of School:	Magnet/Single Theme
★Type of Location	Urban
★Students Served:	Enrollment 469 (63% African American, 19% Caucasian, 17% Hispanic)
★Compelling Outcomes:	90.5% attendance rate 85.1% graduation rate vs 61.7% district average 80% of graduates attend 4-year colleges or universities. Students graduate with 31 credits while the required minimum for the state of Illinois is 20. Students receive more than $1,000,000 in college scholarships each year. (School Year 95-96)

Learning in Action

Chicago High School for Agricultural Sciences (CHAS) is a surprising place. Although its enrollment is the smallest of Chicago's public high schools, its grounds are the largest (77 acres of farmland in the outlying Mount Greenwood section of the city). From its beginning in 1985, CHAS was designed with an integrated curriculum in which agriculture is as important as English. Agricultural science is woven into all content areas of the curriculum, and teachers work to complement the subjects being taught in each other's classes. For example, the French teacher asks students to report on the farming industry in France. Math teachers might take the class out to the farm fields and have students practice what they've learned about height, width, and area by measuring different crop fields.

In addition to classes, students are required to spend at least one summer in the school's Supervised Agricultural Experience Program (SAEP). This program offers students a full-time, supervised applied learning experience. Some students (mainly seniors) have the opportunity to participate in a research apprenticeship, where they spend 6 weeks on a college campus working with a professor on his or her research. They earn a stipend and maintain a journal of their experiences. Still other students work at jobs and internships through the Agricultural Cooperative Education (ACE) program.

The school has substantial relationships with many external partners. Monsanto and American Cyanamid have taken up to 30 faculty for extended in-service training at their home facility. The USDA, Eli's Cheese Cake, the Department of Soil Conservation, and Quaker Oats are just some of the partners who contribute to the success of CHAS. With Tech Prep programs in food science and agricultural finance, CHAS has also formalized articulation agreements with three postsecondary institutions. This articulation agreement allows students to earn dual credit, or advanced placement in a 2-year associate degree program, for classes taken in the eleventh and twelfth grade.

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New American High Schools...in brief

David Douglas High School

Portland, Oregon

"I look at all of my friends at the other high school and I feel most of them don't have any experience. So for me being here and doing the things I've done, I've had the advantage over somebody else who hasn't had this. I already know some of these things, and it's going to make it easier for me in college and it will make it easier for me once I get out into the world. I've already been prepared, I'll have done things a little bit longer than everybody else"

-David Douglas Student

★Type of School:	Comprehensive High School
★Type of Location:	Urban
★Students Served:	Enrollment 1,900 (87% Caucasian, 7% Asian or Pacific Islander, 3% Hispanic, 2% African American, 1% American Indian or Native Alaskan).
★Compelling Outcomes:	Approximately 55% of David Douglas graduates attend college. Dropout rate has decreased to 6.7% and average attendance rate has risen to 93.4%. Verbal SAT scores have increased 20% in the last 3 years. (School Year 95-96)

Learning in Action

In 1993, David Douglas High School and the Oregon Business Council joined in a partnership to design a high school program that will meet the expectations of the Oregon Education Act for the 21st Century (1991) and be replicated by other districts and communities. Their vision was an 8-point plan of action which included both the David Douglas Model District Partnership (a K-12 effort), and the site-based Project STARS --a high school effort to prepare students for college and the world of work. The result was a long-term strategy for whole-school restructuring that involved community and business leaders, parents, teachers, students and school administrators.

David Douglas is a state pilot site for the CIM (Certificate of Initial Mastery) and the CAM (Certificate of Advanced Mastery) programs outlined in the state's Education Act for the 21st Century. These proficiency based certificates are designed to provide added value to the traditional high school diploma. Work on completing the details of the CAM is still in progress at the state level, but David Douglas is already piloting the CAM through its career paths. Project STARS (Students Taking Authentic Routes to Success) structures the school's learning environment with an eye towards identifying and planning for long-term educational and career goals. Every student entering the school begins an initial career exploration in middle school. This is followed by an intense semester of career exploration in the ninth and tenth grades. All ninth grade students have a faculty mentor --a teacher or administrator --who works with the student to support academic success and manage the student's CIM portfolio. A flexible, individualized education plan is developed for the high school years, as well as the steps beyond.

To support guidance activities during the freshman and sophomore years, the school established a 2-semester personal finance and career exploration class, nicknamed PACE I and II. These courses combine a range of career and interest inventory tests with some research into the various careers associated with each student's choice of career constellation. Local business participation helps to make the PACE classes highly relevant to students career explorations. Through their partnership with the Oregon Business Council, all PACE I classes tour a business to learn more about a range of jobs that represent many of the school's 7 constellations. PACE II classes send students on a focused job shadowing experience, where students interview an employee to determine the education and job-related training required for a particular position.

Much like a college curriculum, the ninth and tenth grades are devoted primarily to general study, reflected in the CIM courses. Beginning in 1999, all students will have to earn a CIM to graduate. In order to receive the CIM, students must be proficient in all CIM ninth-and tenth-grade required courses, which include English, social studies, math, science, wellness, personal finance and careers, and technology. Students must satisfy attendance requirements and demonstrate mastery in 2 ways: 1) all students must maintain at least a 2.0 GPA in all freshman and sophomore core courses; 2) students must build a portfolio of evidence--a collection of their best work from all classes that shows the use of the CIM skills. A scoring rubric for all CIM classes was developed by a district and high school committee and grades students on a 6-point scale, where a score of 4 or higher satisfies the CIM requirement.

The eleventh and twelfth grades are dedicated to working in a major area of study, or a CAM. All David Douglas students participate in 1 of 7 broad career areas, called "constellations," that reflect the 6 career areas established in the state legislation (CAMs) and an additional Hospitality constellation created by the school. Each year, academic classes provide a foundation of necessary skills, including those required by the CIM and the CAM, while constellation courses offer a range of ways to learn and practice various career-related skills, from hands-on projects to student-run businesses or enterprises. The 7 constellation areas are: Social and Human Services, Health Sciences, Business and Management, Industrial and Engineering Systems, Natural Resources, Arts and Communications and Hospitality, Tourism and Recreation. A number of pathways are articulated between David Douglas and local community colleges, especially Mount Hood Community College.

In addition to supporting the work-based learning components of the PACE classes, the Oregon Business Council also provided extensive support for the design and implementation of the CAMs at David Douglas. In the 1994-95 school year, 7 teams comprising teachers and business representatives developed the course and mastery requirements for each of the constellation's CAM. Like the CIM, the CAM requires a combination of core academic and career-related courses and a portfolio of evidence. Each constellation will eventually offer between 1 and 4 CAMs based on the focus of career-related electives the student chooses to take. The CAM design team's first order of business was the development of one central CAM class that is generally team-taught and takes 2 of the 4 90-minute periods every other day. In addition, each CAM also requires a senior project, which is usually a combined effort undertaken in English and the CAM class. Students must spend at least 30 hours outside of the school researching a topic related to their CAM class. Since the project topic may not be something the CAM class has covered, the student is responsible for finding a mentor outside the school to serve as a content expert. Finally, students are expected to write a lengthy research report and present it to a board of teachers and business representatives.

Students participate in learning experiences through a variety of hands-on projects, including the operation of numerous school-based enterprises; job shadowing and internships; and class and community service projects with peer teams and outside adult mentors. For instance, in the Business and Management constellation, students run a school store and the Bank of David Douglas, which is a satellite branch of a commercial bank open to the entire community. Students in the Industrial and Engineering Systems (IES) CAM class work on completing a collaborative, multi-tasked class project. When the class was first offered in 1995-96, students designed and built an electric race car to compete in Portland's "General Electric Electron Run." They divided the work among themselves according to their interests and aptitudes. Students met with their teacher every morning for a board meeting during which they reported on the status of their individual project responsibilities. Those with an interest in engineering developed Computer Assisted Design (CAD) blueprints for the various mechanisms to be used on the car. Students interested in business operations developed fundraising plans and solicited business partners, while others with an artistic bent designed a logo and brochure. "Everybody's got their own little part to do and to give to somebody else," says one student who talked enthusiastically of the experience. "Actually, we work really well as a team."

There is a strong feeling at David Douglas that many of the changes that have occurred since the school restructured itself using the career constellations model have really raised expectations and improved support for student achievement. In the words of one senior, students appreciate the difference. "I can see by looking around that my teachers at David Douglas are doing a lot of things to get students to do better that teachers at other high schools wouldn't do. We're realizing we can do the work, and we're having fun learning more, too. When people expect more out of you, you give more."

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NEW AMERICAN HIGH SCHOOLS
U.S. DEPARTMENT OF EDUCATION

New American High Schools...in brief

High School of Economics and Finance
New York, New York

"You don't get to work on Wall Street anymore without a college diploma. So all the youngsters in this school take a full Regents program, which in New York state is the highest level of courses. Simultaneous with that is the vision of a school [that is] just small and humane and caring."

-Susan Ewen, Principal

★Type of School:	Magnet
★Type of Location:	Urban
★Students Served:	Enrollment 576 (39% Hispanic, 32% African American, 16% Asian, 12% Caucasian)
★Compelling Outcomes:	The 1996 attendance rate was 93.3%; In 1995-96, 99 companies and nonprofit organizations sponsored community service and unpaid internships; In 1995-96, 55 companies conducted 108 student seminars. (School Year 95-96)

Learning in Action

Where can a student take rigorous academic courses and learn the intricacies of high finance at the same time? With its focus on high-level study and its network of business support, the High School of Economics and Finance is just such a place. The school weaves weekly business seminars, community service, internships, and individualized tutoring into broad but personalized in-depth mentoring experiences that augment students' academic achievement and career goals.

Founded in 1993, the school uses the theme of economics and finance to focus its 4-year curriculum. That curriculum is based upon Regents classes, the highest level of coursework that New York offers. There is no tracking. Every student takes Regents courses in every core academic discipline to prepare for the Regents exams and competency tests–12 in all. They must pass them to earn the Regents diploma that is necessary to enter the State University of New York college system.

But it is the economics/finance theme that makes the school unique. All students must take coursework from the Academy of Finance, a program of finance-related study. In addition, they must complete three phases of work-based learning, progressing from 120 hours of community service to 120 hours of unpaid internships to 240 hours in paid internships. Throughout each phase, the student prepares a resume, passes job interviews, completes daily work assignments, and submits a final report. When the students complete 11 Academy courses and the paid internship, they receive a certificate that verifies their expertise for financial sector jobs.

The school's location in the heart of Wall Street's financial district provides students a distinct advantage to pursue their aims. That location offers them the unique opportunity to connect with partners that continually reinforce the economics/finance theme. The most important of these is the Sanford I. Weill Institute for Lifelong Learning, a small-business school that offers short courses by almost 180 business professionals throughout the year. Every Wednesday, students don their business clothes and trek to the Institute for their 8-week, 2-hour seminars, workshops, or similar finance-related activities. Through the Institute, students may request individualized tutoring, work at internships after school, develop personal relationships with industry representatives, and participate in job shadowing opportunities. The Institute program manager works with the student to ease the connection between classes and work experiences.

Another key partner is Baruch College, the City of New York's business school, which operates a satellite campus at the school. Students may take up to four undergraduate courses at Baruch College free, which count toward high school and college credit.

Support for teachers at the school also reflects its special purpose. Teachers take a 2-week summer institute where they participate in workshops facilitated by the Council on Economic Education. These workshops focus on how the economic concepts of the marketplace can be infused in the regular curriculum. In addition, teachers enjoy regular common planning periods in which they learn from one another. Many also attend centers through the Weill Institute, and they all regularly tour corporate sites, where they learn from the experts in the industry. They have an opportunity to take continuing education or graduate courses at Baruch College.

School evaluation is done through a team composed of teachers, parents, students, and the principal. The team prepares an annual needs assessment and evaluation plan and sets annual improvement goals. The team also gauges the number of students participating in work-based learning and in the NASDAQ Incentive Plan, which rewards students with cashable shares for academic achievement. These measures allow the school to track student progress in the unique areas that underlie its mission.

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NEW AMERICAN HIGH SCHOOLS
U.S. DEPARTMENT OF EDUCATION

New American High Schools...in brief

☆ Encina High School ☆
Sacramento, California

"For people who really want to do something, the Academies really do help them. You get more time with your teachers, it seems like here the classes are smaller. Every teacher that I have here, they know me, you know, they know my name and I like that a lot better. You get a lot of help."

-Encina High School Student

★Type of School:	Comprehensive High School
★Type of Location:	Urban
★Students Served:	Enrollment 987 (42% Caucasian, 24% Hispanic, 22% African American, 7% Asian American, 5% other). More than 73% are eligible for free and reduced lunches. Over 31 different languages are spoken at Encina.
★Compelling Outcomes:	Enrollment has increased approximately 12% in the last three years. The number of students taking A.P. exams has increased over 100% since 1993. Scholastic Achievement Test Scores have increased 7% in math and 6% in verbal areas since 1993. (School Year 95-96)

☆ *Learning in Action*

Four years ago, Encina High School embarked on a journey of organizational change. To develop a long-range plan that would begin to address the issues facing the school, Encina High School principal Tom Gemma approached Sacramento Total Quality Management, an organization that represents nearly 400 businesses in the area. The result was a "Future Search" conference held over three days with 125 stakeholders, including Encina's teachers, students, parents, its feeder middle school staff, district office personnel, the state education department, the local community college, California State University at Sacramento (CSUS), and local businesses. From this conference and more than $5,000,000 of grants emerged a career-related, academy-based reform plan for Encina that has been implemented with remarkable success.

Based on the success of the 8-year-old Health Careers Academy at Encina and supported by California's Partnership Academies legislation, stakeholders concluded that the smaller "school-within-a-school" career academy model, with its proven ability to reduce tracking and student isolation within the high school, should be expanded to involve all students. As a result, the school adopted block scheduling, dividing the school day into 4 95-minute periods and subsequently all students enrolled in one of 5 academies. In addition, the school elicited commitments from conference participants to support 4 other innovative changes related to Gemma's "community resource school" concept: 1) expanding career, crisis and family counseling; 2) opening a night school for adults and would-be dropouts to obtain a general education diploma; 3) creating an on-site day care center for teen moms; and 4) opening an employment services office to reduce the welfare rolls.

It seemed natural for Encina to focus its first academy on the health care field when, in 1989, it applied for and received a state grant. Sutter Health, the local health care provider organization and manager of several hospitals is one of the area's largest employers in a growing industry. Based on labor market information and employer support, the school created an Academy of Business Careers, covering the fields of accounting, finance and media communication and the Graphic Design Academy for desktop publishing, print design, and art-related careers. To serve students not interested in the first three academies, the school created an Academy of Career Exploration in 1995. Most students in this academy express an interest in either the criminal justice or human services fields. Finally, there is the Freshman Academy, which includes all ninth graders and facilitates their exploration of career possibilities.

Each of the academies is run by a team that includes an English, social studies, science and vocational teacher. Since students enrolled in each academy stay together with the same team of teachers from grade 10 through 12, continuity and support is enhanced throughout the 3-year course sequencing in each academy. The curriculum combines rigorous academics that allow students to prepare for college with a sequence of vocational courses that provide hands-on experience and technical skills.

Business partners in fields related to the academy's focus participate in a range of ways, offering motivational speakers and mentors as well as sites for field trips, job shadowing, internships, paid and unpaid apprenticeships. For example, within the Health Academy, the Health Technology II class that is required of Health Academy juniors includes one afternoon each week spent at a hospital. Students rotate through several hospital departments to develop an awareness that the health field is not limited to patient care. As seniors, students get to learn and practice skills under the supervision of a workplace supervisor. As paid apprentices, they develop an employee-employer relationship with that supervisor as they learn skills in such departments as Rehabilitation Services, Diagnostic Imaging, or Medical Information Services. Students receive qualitative and quantitative evaluations for their work at the hospital, and 50% of their grade for the health elective is determined by their employer or supervisor at the worksite.

During one 90-minute period per week, teachers from all of the core academic disciplines and technical courses meet together to discuss individual student's progress and inter-disciplinary curriculum development. Each academy has at least one integrated project per year that combines career themes with academic classes. For example, the Academy of Business Careers' accounting, English, entrepreneurship and math teachers worked on a carnival project. The focus of the project was to teach students how to create and market a new product. Says Bob Kirrene, the facilitator for the Academy of Business Careers, "It's refreshing to have a curriculum project where everybody in the academy is involved." Teachers continue their learning process through summer internships in industry settings within their academy's professional field.

To support the intensive staff development required to develop the integrated academic and vocational curriculum necessary within each academy model, Gemma sought and obtained a 3 year grant from the Walter Johnson Foundation. As the school developed a more integrated curriculum, teachers and administration recognized the need for different kinds of student assessment. With money from the foundation grant, the school was able to hire an assessment mentor to work with teachers. As a result, students are now maintaining portfolios in their academy classes. Says one student, "We keep portfolios in all of my classes. We have a folder to keep all of our work for the class. Then we'll have a portfolio assignment where we have to explain what we learned in the unit by going over all of our work. We write about what was hard and easy so we know how far we've come. We can see that we overcame certain problems that we didn't understand at the beginning of the unit."

Gemma sees a high-tech future for portfolio assessment at Encina. He hopes to introduce a CD-ROM portfolio that would contain the best examples of a student's work in all classes at Encina from grades 9 through 12. This would be presented to a board and would become the basis for students graduating from high school.

Through a partnership with California State University at Sacramento, Encina has been able to expand counseling services for students. Through a program called "Shared Visions," graduate students in the university's counseling masters programs can fulfill their internship requirement at Encina. For the past 4 years, a total of 13 interns have worked with teachers in the Freshman and Career Exploration Academies to develop career counseling units. The partnership between Encina and CSUS benefits students at both schools. The graduate students get the hands-on experience of dealing with adolescents and the hard issues that face them, while Encina students benefit from the intensive counseling. "It's a win-win situation"" says Gemma.

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New American High Schools...in brief

Fenway Middle College High School
Boston, Massachusetts

"We had one student who just hadn't exactly dug in. We found a teaching assistant internship at an elementary school. He just loved it! He loved the teaching, he loved the kids, he's an excellent teacher, and he wants to be a principal. That is going to be the one thing I really think that will give him self confidence and direction. That's what it's all about."
- Fenway Senior Internship Coordinator

★Type of School:	Pilot High School
★Type of Location:	Urban
★Students Served:	Enrollment 250 (57% Black; 20% white; 20% Latino; 3% Asian; 39% LEP; 62% eligible for free or reduced-price lunches)
★Compelling Outcomes:	95.2% average daily attendance exceeds all other Boston Public Schools that average 84%; 80% of Fenway's students go on to college compared to 60% of graduates from other Boston Public Schools. Student grading is performance-based and graduation is earned through portfolios and exhibitions that demonstrate mastery of knowledge rather than an accumulation of course credits. (School Year 95-96)

Learning in Action

As a "Middle College High School" Fenway is located on the campus of Bunker Hill Community College. The unusual name, "middle college," is derived from the idea, similar to middle schools that connect elementary to high schools, that the college setting and older students help adolescents more readily make a connection to goals beyond high school.

Whether students are interested in postsecondary education or careers, Fenway's students are a diverse group, some of whom entered the program because they had either dropped out of other high schools, been asked to leave, or were about to drop out. Other students were recommended for the program by teachers and principals of other Boston high schools and on occasion, introduced by juvenile court judges and social workers.

Although rigorous academics and intensive work-based experiences are a feature of the Fenway program, its philosophy recognizes that the traditional high school does not accommodate all types of students. In 1989 Fenway joined Ted Sizer's Coalition of Essential Schools. Through membership, Fenway committed itself to implementing the Coalition's principles that redefine a school's purpose so that all students are held to the same high standards.

At Fenway, all students belong to 3 houses: Children's Hospital; CVS Pharmacy, or Cross-Roads (partnered with Boston's Museum of Science). The Houses are founded on the commitment of the business partners to the success of the schools and its students. Each of the partners has committed time, internship sites and fiscal resources, including the funding of a job site coordinator.

The House structure does not limit students' choices but instead offers unlimited possibilities for meeting a wide variety of interests. The curriculum, based on the "5 habits of the mind," stresses the development of (1) perspective and viewpoint, (2) evidence, (3) connections, (4) relevance, and (5) supposition. Students demonstrate these habits of mind through portfolios and exhibitions where they openly display their skills and accomplishments.

The faculty is continually searching for ways to improve the program and add new techniques to challenge and meet the needs of the students. Because of this relentless search, Fenway is appropriately called a school "in perpetual motion."

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New American High Schools...in brief

Gateway Institute of Technology
St. Louis, Missouri

"A lot of kids come in freshman year and say, 'This isn't for me.' Then a teacher gets hold of them, or they get hold of a teacher, and suddenly they've earned an award in architectural design, or math or computer programming. It really doesn't matter what school they came from. What matters is what they do during their 4 years with us."

- Sue Tieber, Principal

★Type of School:	Science and Technology Magnet High School
★Type of Location:	Urban
★Students Served:	Enrollment 1,600 (41.9% Caucasian, 23.7% Hispanic, 21.5% African American). 58% are eligible for free or reduced-price lunches.
★Compelling Outcomes:	Student drop-out rate is less than half the rate of the district. Students score an average of 10 points higher on standardized tests of achievement in math than do other students in the district. Students score an average of 8 points higher on standardized tests of achievement in reading than do other students in the district. (School Year 95-96)

Learning in Action

The Gateway Institute of Technology was designed to create an entirely new kind of high school experience for St. Louis students. Its curriculum, developed to meet the future workforce needs of St. Louis, combines rigorous academics with career preparation in high-technology fields.

A special emphasis is placed on college and career preparation in areas requiring high levels of math and science. All students are required to take computer science and computer applications courses, 4 years of math and sciences, as well as 4 years of English and 3 years of social studies. Work-related skills such as ethics, team building, and responsibility are also emphasized.

Gateway's freshmen and sophomores are grouped into structures called "Houses" for career exploration in 4 major areas: (1) Agriculture, Biology and Medical/Health Sciences; (2) Engineering Technology; (3) Applied Physical Sciences; and (3) Computer Science and Mathematics. During this time, teachers and counselors work closely with students to help them select areas of specialization by the end of their sophomore year.

In the junior and senior years, Gateway's approach focuses on bridging the gap between subject matter and careers. To accomplish this, students are grouped by career majors, and often work as interns, or on research projects, under the mentorship of scientists, doctors and researchers at

nearby Washington University, the Barnes-Jewish Medical Center, St. Louis University, or the University of Missouri-St. Louis.

"We are no longer just talking about biology, but really about specific disciplines--physical therapy and medical technology and plant science. We have people who not only can help with the theory, but can also demonstrate it for us in the classroom, and this is unusual" (Gateway Teacher).

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New American High Schools...in brief

☆Sussex Technical High School ☆

Georgetown, Delaware

"If you don't want to work and achieve and do your best, then you should stay at your home school. This school is for those who want to succeed"

-Sussex Technical High School Student

★Type of School:	Technology Magnet
★Type of Location:	Rural
★Students Served:	1,131 (75.5% Caucasian, 21.8% African American, 2.7% Other) (School Year 96-97)
★Compelling Outcomes:	Attendance rate is 95% and the dropout rate is less than 3%. Postsecondary enrollment has increased from 26% in 1990 to 64% in 1996. SAT scores increased 67 points on verbal, and 19 point on math portions between 1994 and 1996. Scores on the National Assessment of Education Progress increased 12 points on reading, 13 points on math, and 6 points on science between 1993 and 1996. (School Years 95-97)

☆*Learning in Action*

In just 5 years, Sussex Technical High School has been transformed from an area vocational school with declining student enrollment and low academic achievement to a restructured high school that offers students a challenging, integrated curriculum. The school's success in raising expectations and academic and technical achievement has not gone unnoticed; it currently has a waiting list and anticipates having to turn away a growing number of prospective students.

Sussex Tech has been restructured to promote both high expectations and the integration of academic and vocational education. The high school reorganized its occupational program into 4 clusters: Automotive/Diesel Technologies, Business Technologies, Health/Human Services Technologies, and Industrial/Engineering Technologies. Each cluster has developed a challenging program of study that includes academic and technical courses. All remedial, general track courses, and study halls have been eliminated. The programs of study include advanced math and science courses in each occupational area.

The schedule at Sussex Tech has been radically altered to accommodate this cluster approach and to promote integration.

Classes are block scheduled, with technical classes meeting each day for 90 minutes and academic classes meeting for 90 minutes every other day.

At Sussex Tech, administrators and teachers have identified an integration project for each grade level, to include all students in that grade. For example, Industrial/Engineering Technologies

cluster can read about the American Revolution in history courses, then fashion tools and implements modeled on those of the Revolutionary period.

Finally, all twelfth graders are required to complete an integrated senior project. For instance, over the course of a year, students in the Industrial/Engineering Technologies cluster constructed a house for one of their projects. All students were assigned math problems about the amount of materials required to complete the project and the costs of these materials. A community resident moved into the house after it was completed.

Math teachers ask their students to discuss and write about how math is related to their technical area. Students at Sussex Tech are regularly asked to reflect upon the ways in which various disciplines can be integrated.

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New American High Schools...in brief

Thompson School District
Loveland, Colorado

"There is so much interaction with the parents. They're getting involved in what their kids are doing in school. Parents love the idea that students are getting out in a work-based experience and finding out what it's really like in the world of work. This improved and proactive relationship with parents is one of our major successes."

-Career Education and Partnership Director
Thompson R2-J District

★Type of School:	Thompson School District Contains 3 Comprehensive High Schools
★Type of Location:	Suburban and Rural
★Students Served:	Thompson Valley High School Enrollment 1,493 (93% Caucasian; 7% combined African American, Asian, Hispanic, Native American; 17% are eligible for free or reduced-priced lunches) Berthoud High School Enrollment 540 (91% Caucasian; 6% Hispanic; 2% Asian; 1% African American; 10% are eligible for free or reduced-priced lunches) Loveland High School Enrollment 1,592 (92% Caucasian, 8% combined African American, Asian, Hispanic, Native American; 12% are eligible for free or reduced-price lunches)
★Compelling Outcomes:	Thompson Valley High School, 70% of graduates attend college, compared to 50% 5 years ago. The dropout rate has decreased from 6.8% to 3.2% in 5 years. Berthoud High School, 75% of graduates attend college, compared to 55% 5 years ago. The dropout rate has decreased from 6.8% to 4.4% in 5 years. In Loveland High School, 78% of graduates attend college, compared with 45% 5 years ago. The dropout rate has stabilized at 5.4% despite a 13% increase in enrollment in the last 5 years. (School Year 95-96)

Learning in Action

Seven years ago, the Thompson School District took a bold step in education reform by instituting ambitious district standards and assessments. To help students achieve these higher standards, the district moved to career pathways -- 6 academic and career areas that would motivate students to higher achievement by demonstrating the relevance of coursework to students' career goals. The pathways include: Business Operations, Technical, Mechanical, Natural Resources and Crafts;

Research, Engineering and Medical Services; Arts and Communications; Social, Health, Education, and Personal Services; and Marketing, Management and Recordkeeping. As a result, the district's current academic standards now exceed those set by the state. The success has been a shared effort with partnerships between the schools, parents, students, teachers, administrators, employers, and community leaders.

Although every school in the district has adopted career pathways as a strategy, each school has implemented the reform according to their own preferences and circumstances. Some schools have emphasized curriculum development and team teaching, some teachers are infusing career-related activities into their academic instruction and others are focusing on developing work-based learning experiences for their students.

The counseling staff has been a key component in fitting all of the career education pieces together. Each student works with a group of counselors, parents and teachers to develop an integrated Career and Academic Plan. This plan encourages students to explore the skills and educational requirements of various career pathways. Students can explore options, set goals and follow through with the appropriate classes and work-based learning experiences.

Business involvement is a critical component in School-to-Work partnerships and the district has a strong relationship with the Berthoud and Loveland Chambers of Commerce. Area employers such as Hewlett Packard, Mckee Medical Center, Kodak, and Bank One collaborate with the schools to provide help in designing strategic plans, budgets and work-based learning experiences and internships for students and teachers. The district also enjoys strong ties with nearby post-secondary institutions including Colorado State University, The University of Northern Colorado, Aims Community College and Front Range Community College. High school students can take college courses and use the high tech facilities to complement their current studies. Smooth transitions between high school and college have improved postsecondary enrollment. Over the last five years, the percentage of students continuing on to 2- or 4- year colleges has jumped at Loveland from 45% to 78%, at Thompson Valley from 50% to 70% and at Berthoud High School from 55% to 75%.

Students in the Thompson School District have been encouraged to explore their futures, make academic and career goals and follow through with the help of parents, teachers, counselors, employers and community leaders. As a result, the district's academic standards exceed those set by the state, dropout rates have decreased and enrollment in 2- and 4- year colleges has increased substantially.

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★ Contacts

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New American High Schools...in brief

William H. Turner Technical High School
Miami, Florida

"In middle school, I didn't do that well. Now, my GPA is much higher, and I've had opportunities to do things outside of class, too, like enter a public speaking contest where I placed second in the district. For me it's no longer a choice *between* going to college or going straight out into the workforce. Now I know I can do both."

-William H. Turner Student

★Type of School:	Career Magnet School
★Type of Location:	Urban
★Students Served:	2,157 students (69% African American, 28% Latino, 3% Caucasian; 85% eligible for free or reduced-price lunch; 9% Limited English Proficient)
★Compelling Outcomes:	Turner Tech has a 2.5% drop-out rate, compared to 8.85% for the district. Attendance rate rose from 92.6% in 1993 to 95.5% in 1997, the highest in the district. 73.4% of the first graduating class of 1996 entered postsecondary education. 11.4% of the first graduating class entered jobs within the fields of their career training. Number of discipline-related incidents, suspensions, or expulsions in 1996-97 was 0. 1996 scores on the communications portion of the State High School Competency Test were ranked sixth among the county's 32 schools. (School Year 95-96)

★*Learning in Action*

Students from across Dade County attend "Turner Tech," an urban magnet school in the greater Miami area, for the chance to experience a new kind of learning-- integrated academic and technical education-- and to earn the school's unique "2-for-1" diploma: a high school diploma *and* state-certified, industry-recognized technical training. Every student takes a rigorous core of academic courses, presented in a career context, by joining one of the school's 7 career academies: Finance, Health, Agriscience, Applied Business Technology, Industrial Technology, Public Service/Television Production, and Residential Construction. Even the school uniforms that students proudly wear are organized around this theme: the required polo shirts come in different colors for each career academy. One student explained the policy this way: "It's like dressing for a job everyday. Going to school and making good grades *is* my job."

The academy model helps the school create and organize powerful relationships between academic and vocational teachers, between academies, and with partners outside the Turner campus. For example, students in the Academies of Residential Construction (ARC), Finance, and Agriscience partner with professionals from the largest residential construction company in south Florida to build one home annually from the ground up. Architects and drafting classes use the latest CAD software to develop blueprints and floor plans. ARC juniors and seniors build the house to "0-defect" industry specifications, while Finance students, in partnership with Fannie Mae, a

federally-sponsored home mortgage insurance corporation, help market the house, identify potential buyers, and calculate mortgages for the new homeowner. Landscaping on the new property is handled by Agriscience students, and counts as community service as well classwork. Proceeds from the sale of the house go to a Turner Tech student scholarship. Several of the academies are linked to other scholarship, training or degree programs, so students can earn business-funded tuition support, state certification, advanced credits toward an associate degree, or advanced standing in registered union apprenticeship programs. All academies encourage students to apply for state scholarship funds to support their enrollment in 4-year colleges.

Students and teachers point to the power of integrated curriculum as one reason for the consistent climb in attendance rates and scores, and the growing reputation for excellence that draws 2 applicants for every opening at this magnet school. Instead of being organized around departments like the standard high school, at Turner, an expert vocational educator leads each academy's multi-disciplinary team of teachers, and core curriculum leaders ensure that state standards are met across all academies. Teachers set aside common planning time to develop Integrated Curriculum Units (ICUs) that present a number of academic subjects, as well as critical thinking and team skills, within the context of the academy's area of focus. In one project that involved social studies, English and television production skills, students in the Academy of Public Service produced a documentary on Cubans in the south Florida region. The class studied historical and political issues surrounding the relationship between the United States and Cuba, and investigated current attitudes about these countries by Cubans in the area. After the documentary was presented in class, it went on to win first prize in a local amateur film contest.

Work-based experiences give students and teachers the chance to see how skills taught in the classroom connect with the real world. Both students and teachers have the opportunity to job shadow employees of many of the school's many business partners. This allows students to experience the range of jobs available in their area of interest, and provides teachers with examples of how academic and technical subjects are used in the world of work. Students may opt for more intensive internships in their junior and senior years, and may receive credit toward graduation for supervised work-based learning, with employers providing regular and detailed evaluations of student performance at the worksite.

Students enthusiastically describe how the Turner experience brings college and career goals within reach. "Before I came to Turner, I had no plans to go to college. I hadn't even thought about what would happen after high school. Now I'm really serious about going to college," one junior says. Speaking about the job offers he has received through the work-based experiences and business partnerships in his academy, a senior adds: "The academy has helped me by giving me a lot of choices and opportunities. If I were at a regular school, I wouldn't have any of these job offers. I would have to wait until I graduated to start even looking for jobs. They would not have come looking for me." A third student sums up by saying: "I look at my friends who stayed in my neighborhood school, and think of how lucky I am to be here. Sure I have to work a lot harder here, but I have a plan, a future."

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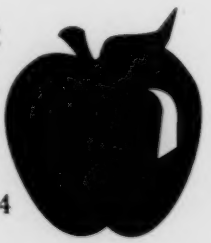

New American High Schools...in brief

☆ Walhalla High School ☆

Walhalla, South Carolina

"When we took the medical careers course at the Hamilton Career Center, we got to shadow whoever we wanted. First I visited the emergency room, but that wasn't my thing because I passed out. Then I started shadowing a physical therapist. She's really nice, she has a really good job, and I like what she's doing. I'll probably go to Clemson University for 4 years, then transfer to the Medical University at Charleston for another 2, and then I'll be a physical therapist."

-Walhalla Student

★Type of School:	College Prep and Tech Prep
★Type of Location:	Rural
★Students Served:	850 students (14% are eligible for free or reduced-price lunch. The student population consists of 94% Caucasian, 3% African American, 3% Hispanic, and less than 1% Asian/Pacific Islander). (School Year 1997)
★Compelling Outcomes:	100% of students say they are going to continue their education. Students in the class of 1996 are taking more math classes (100% took 3 or more, compared to 41% in 1993). More students in the class of 1996 took the SAT (60%), compared to students in 1990-92 (58 %). SAT combined verbal and mathematics scores increased for seniors in the class of 1997 (1011), compared to score sto 1990-92 (865). Postsecondary enrollment numbers have increased: 1995 (65%) compared to 1989 (44%). Dropout rates for students have dropped from 3.7 % in 1987-88 to 2.3 % in 1996-97. Students graduating with a career major has reached 50% (1997). (School Years 95-97)

☆ *Learning in Action*

When the bell signals the end of each class period, throngs of Walhalla High School students exit the sprawling building. They march into the parking lot, a huge blacktop separating the high school from a nearby middle school. They get into their cars or hop on a school bus and leave. Principal John Hostetler even waves goodbye to them. In less than 10 minutes, the scene is reversed. Except this time Principal Hostetler welcomes a new cadre of students who are returning from the Hamilton Career Center (HCC). Everyday, nearly a quarter of Walhalla's students take advanced courses for both high school and college credit at the HCC. The ebb and flow is constant, and reflects the school's highly individualized, flexible scheduling. This makes it possible for students to take the rigorous courses offered at both locations and also work in various school-based and work-based experiences throughout rural Oconee County.

Skirted by the Appalachia's Blue Ridge Mountains, Walhalla borders Interstate 85, an industrial corridor that links manufacturing and agricultural companies from Greenville to Atlanta. With the face of local industry changing from textiles to automated manufacturing, Walhalla's business and education partners realized as early as 1986 that their graduates severely lacked the technical expertise and occupational skills and competencies to get local high-paying jobs. Recognizing that the traditional educational experience at Walhalla would not adequately prepare students for their roles in the 21stt century, the school's principal, faculty, and staff members used input from the business and industry communities to begin reassessing their educational programs during the 1987-88 school year. Collaborative efforts with the Southern Regional Education Board and PACE, the Partnership for Academic and Career Education (a tech-prep consortium), assisted Walhalla High School in initiating a whole school reform program. Later cooperation with the Hamilton Career Center and Tri-County Technical College resulted in postsecondary articulation agreements.

In concert with State Education Department initiatives, Walhalla High School has organized their career clusters along a College Prep and Tech Prep continuum. The College Prep focus provides students with extensive preparation for college-level work leading to a chosen career. The Tech Prep focus prepares students for further technical college training or for immediate entry into a chosen career. "For example, if a student is entering a technical engineering field that requires a 4-year college degree, he or she would have to take some college preparatory classes along with some Tech Prep classes." Students in Tech-Prep courses are not getting a lesser education. Honors, Tech Prep, and college preparatory classes have the same GPA value.

At Walhalla, early intervention and counseling provide a foundation for future growth, exploration and success. The middle school Career Specialist ensures that students and their parents are exposed to and familiar with potential career options and the curricular format at the high school. The career clusters are Business, Engineering, Health Sciences, Trades and Technology, and Arts/Sciences/Human Services. Certain courses in the career clusters award dual credit towards students' postsecondary career plans. The academies are the Finance Academy and the Ford Academy of Manufacturing Sciences (FAMS), which is offered at the Hamilton Career Center. Students learn that courses in both academies allow then to earn college-level credit. During the second semester of the eighth grade, students and parents review the 4-year high school course plan with the Career Specialist. At this time, students make an initial selection from the 5 clusters and 2 academies.

At the high school, students review their career plans with a Guidance Counselor and Career Specialist. The Career Specialist conducts information workshops for students throughout the high school years. At these sessions, students go from learning more about themselves in grade 9 to learning about filling out job applications, interviewing techniques, and creating resumes in grades 10, 11, and 12. The Career Specialist also arranges for students, parents, faculty and staff members to gain work-based experience through programs including job shadowing and internships.

Because Walhalla is a small rural community, arranging an internship for every student is nearly impossible. While some students spend on the average every other day at a worksite, most students piece together a collage of school-based and work-based experiences. "Exposure to the workplace varies from a student taking a plant or facility tour, to machinery demonstrations, to job shadowing," says career specialist Rick Murphy. "Often students have appropriate part-time jobs, enroll in formal, articulated apprenticeship programs, or get involved in a co-op, which is arranged and structured to fit the curriculum."

The real judges of the reform's success, however, are the students who are perceptive critics about the changes that have taken place in the way they now learn and in the way school is now taught.

"I think the biggest difference between my classes this year and the classes I took as a freshman is that both the teachers and the students are realizing that in order to learn something, you actually have to do it," says an agribusiness student. "You also have to see it. Most of us are probably visual learners, so we need a chance to apply our learning. And teachers have to be able to say, this is how you'll be able to use this on the job."

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